Office of the Secretary
Service Date
April 22, 2005

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE FILING OF IDAHO POWER COMPANY'S 2004 ELECTRIC INTEGRATED RESOURCE PLAN (IRP).	)	**CASE NO. IPC-E-04-18**
	)	**ORDER NO. 29762**

On August 24, 2004, Idaho Power Company filed its 2004 Integrated Resource Plan (IRP). The biennial IRP is a planning document that generally sets forth how Idaho Power intends to serve the electric requirements of its customers over the next 10 years. In Order No. 22299 issued in January 1989, the Commission directed each electric utility to file a biennial IRP that analyzes its customer base, load growth, supply-side resources, and demand-side management (DSM) resources. Idaho Power's 2004 IRP addresses its planning forecasts, available resource options, potential resource portfolios, a risk analysis, a 10-year resource plan, and a near-term action plan. Idaho Power requests that the Commission accept its 2004 IRP.

On October 12, 2004, the Commission issued a Notice of the Company's IRP filing and requested interested persons to file comments no later than December 3, 2004. In response to the Notice, the Commission received comments from 27 customers, the Commission Staff, Clean Energy Advocates (comprised of the NW Energy Coalition, the Natural Resources Defense Council, Renewable Northwest Project, and Advocates for the West), Sempra Energy Resources, and wind and solar developers.

On December 15, 2004, Idaho Power supplemented its IRP with a study prepared by Quantum Consulting. As described by Idaho Power, the focus of the Quantum study was to identify cost-effective energy efficiency and DSM opportunities beyond those measures that are designed to reduce the summer peak load. On December 23, 2004, Idaho Power filed Reply Comments. In this Order we accept Idaho Power's 2004 IRP for filing.

THE 2004 IRP

Idaho Power asserted that it worked with stakeholders for almost a year to develop the 2004 IRP. To improve stakeholder and public participation, the Company formed the Integrated Resource Plan Advisory Council ("Advisory Council") comprised of members of the environmental community, major industrial customers, irrigators, state legislators, Commission Staff, representatives from the Governor's Office, and others. The Company presented the draft

IRP to the Advisory Council as well as developers of anaerobic digesters, geothermal generators, wind generators, and DSM advocates. The Council made significant contributions to the Plan. The Company also made "live" presentations about the draft IRP at community meetings held throughout its Idaho and Oregon service territories.

Idaho Power's 2004 IRP reflects a projected increase in customer households from 320,000 today to over 380,000 by the end of 2013. Idaho Power continues to utilize a resource plan based upon a "worse than median" (70^{th} percentile) water conditions.

The 2004 IRP places greater emphasis on conservation and demand reduction programs than the 2002 IRP. Following a risk analysis of 12 different resource portfolios, Idaho Power selected a diversified portfolio with nearly equal amounts of renewable generation and traditional thermal generation as the "preferred" resource portfolio to meet its projected demand. The preferred portfolio will increase the Company's power supply by approximately 800 aMW and increase the capacity of the system by almost 940 MW over the 10-year planning horizon. Of this increase, 124 MW are achieved through demand response and energy efficiency programs.

1. The Preferred Portfolio. The Company's selected portfolio for the 2004 IRP is composed of the following new resource and demand elements over the next ten years:

76 MW demand response programs (DSM)
48 MW energy efficiency programs (DSM)
350 MW wind-powered generation
100 MW geothermal-powered generation
48 MW combined heat and power (CHP) at customer facilities
88 MW simple-cycle natural gas-fired generation
62 MW combustion turbine, distributed generation, or market purchases
500 MW seasonal coal-fired generation

2. Near-Term Action Plan. The 2004 IRP also includes a near-term action plan that sets out specific actions to be taken by Idaho Power prior to the next IRP due in 2006. The near-term plan contemplates the following actions in each year:

2004
1. Issue Request for Proposal (RFP) for 200 MW wind generation
2. Issue RFP for 88 MW peaking resource

2005
1. Design and implement demand-side measures
2. Issue RFP for 12 MW CHP co-generation
3. Issue RFP for 100 MW geothermal generation
4. Select utility partner for seasonal ownership for coal plant

2006
1. Bring 100 MW of wind generation on-line
2. Complete CHP design work with successful bidders
3. Upgrade 150 MW Borah-West transmission line
4. Expand DSM programs
5. Issue RFP for 500 MW seasonal-ownership coal plant
6. File 2006 IRP

Idaho Power has accomplished its near-term actions for 2004.

THE COMMENTS

1. **Public Comments**. Several public commenters commended Idaho Power for placing greater emphasis on energy efficiency, conservation and renewable resources. Several customers urged Idaho Power to place additional emphasis on its net metering program using technology such as solar or wind energies. One commenter recommended that Idaho Power include modern reciprocating engine technology as an alternative to natural gas, simple-cycle combustion turbines. This commenter maintained that the modern reciprocating engine is a viable technology to meet intermediate and peak power production needs.

2. **Wind Generation Comments**. The Commission also received 23 form letters urging Idaho Power and the Commission to investigate construction of a wind farm in Leadore, Idaho. In particular, Capital Enterprises urged the Commission to direct Idaho Power to investigate the possibility of constructing a wind farm near Leadore and requested that the Commission conduct five public hearings so that ratepayers can express their opinions.

3. **Sempra Energy Resources**. Sempra stated that Idaho Power's proposed portfolio is "well-balanced." In general, Idaho Power's IRP "presents a fair analysis of the costs and benefits of different demand side and supply side resources." Sempra Comments at 1. Sempra is currently conducting studies to determine the feasibility of constructing a coal-fired facility in Idaho. Sempra observed that if built, its coal-fired facility would be compatible with Idaho Power's proposed portfolio which included 500 MW of seasonal coal-fired generation. *Id.*

4. **The Clean Energy Advocates**. The Northwest Energy Coalition, the Natural Resource Defense Council, Renewable Northwest Project, and the Advocates for the West submitted combined comments as the "Clean Energy Advocates." As an initial matter, the Advocates praised the 2004 IRP as a "significant advance" for Idaho Power when it invited more public participation in the development of the IRP. "Idaho Power should be commended for its commitment to an open and robust public process . . . and to its demonstrated willingness to pursue new levels of DSM and renewable resources. . . ." Advocates Comments at 1. In

particular, the Advocates noted that the creation of the Advisory Council greatly expanded the public's participation in the IRP process and exceeded the Commission's expectations in the 2002 IRP Order. *Id. citing* Order No. 29189.

a. Conservation. The Advocates also commended Idaho Power for expanding its energy efficiency and DSM programs. Despite the admirable increases in energy efficiency and DSM programs, the Advocates asserted that Idaho Power's portfolio "still lags behind conservative estimates of feasible levels of cost-effective investment." Comments at 2. More specifically, they noted that the Company's Quantum Consulting study found that implementing a "moderate" funding scenario could result in 72 MW of on-peak savings from the residential and commercial classes. The Advocates recommended that Idaho Power add the 72 MW of additional savings to the 41 MW of potential peak savings already included in the 2004 IRP. In other words, Idaho Power should pursue a total of 113 MW of savings. *Id.* at 3.

While the Advocates recognize that the achievement of cost-effective energy savings cannot happen overnight, it urged the Commission to support further efforts by Idaho Power to ramp up its DSM programs and "require that the utility pursue all cost-effective and feasible energy savings identified in the Quantum report and meet the [Northwest Power Planning Council] goal" of obtaining annual savings equal to about 0.4% of Idaho Power's load. *Id.* at 4.

b. Renewables. The Advocates were also pleased with Idaho Power's plan to acquire 350 MW of wind generation. The Advocates declared that the "recent volatility of gas prices underscores the value of [acquiring] resources with no fuel costs." *Id.* at 5. Wind generation provides long-term cost certainty and future risk reduction because of the lack of fuel costs. *Id.* They also suggested that the Company's 2006 IRP include a discussion of the appropriate discount rate to apply to renewable resources. They argued that discounting Idaho Power's fuel costs for supply-side resources "at a discount rate of 7.2% (IRP at 68) is incorrect since it assumed that fuel costs expenditures will be paid by customers on an annual basis through the Power Cost Adjustment mechanism." *Id.* at 6. The Advocates asserted that the IRP's discount rate for fuel costs should not be based on the Company's weighted average cost of capital. "Instead, it should be based on the lower, expected inflation rate. Moreover, [use of a] high discount rate severely disadvantages new renewable resources, such as wind, because renewables have high capital costs [but] no fuel costs." *Id.*

c. Coal Generation. The Advocates alleged there are several reasons why Idaho Power should not invest in large-scale conventional coal-fired power plants prior to the 2006 IRP. First, given the large capital investment needed for a coal plant, they suggested the Company postpone any acquisition of coal-fired generation for at least a year. The Advocates further recommend that the Company capture all cost-effective energy efficiency savings as identified in the Quantum study before issuing a coal RFP. *Id.* at 6 (emphasis added). Second, the Advocates maintained that the 2004 IRP did not analyze "advanced" coal technologies such as integrated gasification combined cycle (IGCC) plants. Analysis of advanced coal technologies is even more important given the financial risks associated with greenhouse gas emissions or possible carbon regulation. Consequently, the Advocates urged the Commission to instruct Idaho Power "to analyze advanced coal technologies, with carbon capture and storage, in the 2006 IRP analysis." *Id.*

In summary, the Advocates suggest that the Commission "acknowledge and accept the IRP" but direct the Company to: (1) pursue investment in all cost-effective energy efficiency resources in excess of levels called for in the 2004 IRP; (2) accelerate the acquisition of renewable resources over the next two years to diversify the Company's energy portfolio; (3) postpone the solicitation or acquisition of additional fossil fuel-based resources until after the 2006 IRP and after all other alternatives have been exhausted; (4) include an analysis of advanced coal technology (with carbon capture and storage) as part of the 2006 IRP; and (5) continue the open public process to develop the 2006 IRP. *Id.* at 7.

5. **Staff Comments**. The Staff also observed that the 2004 IRP represents an improvement over previous plans. In particular, the Staff noted that the 2004 IRP is more complete and contained a more thorough analysis. Staff also acknowledged that creation of the Advisory Council expanded the IRP planning process to include additional stakeholders and the public.

a. Conservation. The Staff was pleased that the 2004 IRP reflects renewed emphasis on cost-effective DSM programs. Implementation of effective DSM programs mitigates the need for more supply-side resources. Staff noted that the two DSM programs and the four energy efficiency programs included in the Company's preferred portfolio could reduce peak demand by 124 MW. However, the Staff expressed some disappointment that the Company did not include two other efficiency programs (commercial existing construction and residential

existing construction) that were demonstrated to be cost effective and provide over 36 MW of peak load reduction. Staff Comments at 8. Despite this shortcoming, Staff supported Idaho Power's efforts to increase the role of energy efficiency, demand response, and variable pricing used to shape customer demand. *Id.* at 10.

b. The RFP Process. The Staff next addressed the request for proposal (RFP) process. Staff noted that "Idaho Power finds itself faced with needing to satisfy sufficient deficits in both capacity and energy." *Id.* at 5. The 2004 IRP anticipates that the Company will acquire additional generating resources by issuing multiple RFPs. Staff noted that a RFP that is structured too narrowly may restrict the number of bids due to: the size and location of renewable resources; timing differences between when resources are needed and when they can be developed; and transmission constraints may limit access to some resources. *Id.* at 10. Idaho Power may put itself in an untenable position if the RFP process is unsuccessful in attracting viable bids for wind, gas-fired peaker, geothermal and CHP generation. Staff suggested that Idaho Power devise a back-up plan in the event that the RFPs do not produce viable options. Staff noted that the lack of a back-up plan may mean that gas-fired generation could be the only supply resource that could be constructed and brought online to meet demand. *Id.* at 11.

c. Renewables. The Staff recommended Idaho Power begin to independently investigate the cost and availability of renewable resources, specifically wind and geothermal. Staff suggested that there is a danger in relying upon the claims of a few developers about cost and availability of renewables within the Company's service territory. *Id.* at 11. The Company should perform its own wind integration study "to determine the amounts of wind generation that could be integrated into its system and the expected cost of integration." *Id.*

d. Transmission. Although the IRP includes an upgrade to the Borah-West path[1] in 2006, Staff suggested that the Company should perform a more thorough study to assess the effectiveness of upgrading other transmission paths. In particular, Staff is interested in knowing whether the lack of transmission is unreasonably restricting the Company's supply options and whether the Company should consider upgrading transmission paths on the west side of its system. *Id.* at 12. In addition, Staff recommended that Idaho Power continue to participate in

[1] The Borah-West path is situated in Idaho Power's main transmission system located west of American Falls. The 150 MW upgrade "is moving forward" and will increase east-to-west transmission capability. This upgrade will permit new east-side generation to serve load growth in the Boise area.

the Rocky Mountain Area Transmission Study (RMATS) to determine whether transmission upgrades on the east side of its system makes sense in order to access wind and coal-fired resources.

e. Coal Generation. Since the IRP process was initiated in 1989, Staff observed that a coal plant has never been included in the Company's IRP. Given the large amount of coal-fired supply (500 MW) included in the IRP, the capital intensive investment and long construction time, Staff believed that the Company must carefully investigate the acquisition of coal-fired generation. As part of this analysis, Staff suggested that the Company study other alternatives such as adding additions to its existing coal-fired plants or joint ownership of other coal plants. *Id.* at 13. Finally, Staff recognized that coal technology is rapidly advancing and recommended that Idaho Power closely monitor new technologies.

THE IRP SUPPLEMENT

After the deadline for comments, Idaho Power submitted a "supplement" to its IRP Application. The supplement consisted of the Quantum Consulting study which contained two phases. The first phase examined the potential for summer capacity reduction from DSM programs and energy efficiency programs. The results from the first phase of the study are included in the IRP. The second phase examined other conservation measures focused on both peak reduction and overall energy savings. Based upon 2002 data, Quantum established baseline estimates for both the summer peak and annual energy sales by customer class.

Customer Class	Percentage Contribution to Summer Peak Demand	Percentage of Annual Energy
Residential	30%	30%
Irrigation	24%	12%
Commercial	18%	20%
Industrial	13%	18%

Quantum study at ES 2.

Quantum estimated that of the Company's total peak demand in 2004, 469 MW were deemed to be applicable to peak demand reduction programs. Of this amount, 105 MW of potential savings were estimated to be economic. Of the 105 MW of economical savings, about

57% was attributable to the Company AC Load Control program for residential customers.[2] *Id.* at 6. Economic energy efficiency programs were estimated to be about 12% of the Company's 2013 energy forecast. Quantum calculated that if Idaho Power implemented all cost-effective energy efficiency measures, that the Company could potentially save 1,107 GWh of annual energy. *Id.* at ES 3. Quantum estimated that this represents approximately 12% of Idaho Power's 2013 energy forecast.

IDAHO POWER REPLY COMMENTS

Idaho Power filed its reply comments on December 23, 2004. Idaho Power conceded that it did not implement all six energy efficiency programs analyzed in its 2004 IRP. Idaho Power intends to analyze the two construction efficiency programs and other cost-effective DSM programs in the next or subsequent IRPs. Reply Comments at 4. Idaho Power expressed concern about its ability to implement the four energy efficiency programs and the two DSM programs all at the same time. Idaho Power insisted that it was prudent to "go slow" so that it could gain experience in large-scale DSM programs. In essence, the Company indicated that it wants to administer the six selected programs in a manner that maximizes customer participation. *Id.*

1. RFP Process. While stating that Staff raised valid questions about the RFP process, the Company noted that the answers to Staff's questions are not contained in the current IRP. The Company stated that as it implements its near-term action plan, it "will compare the bids received through the various RFP processes as well as compare the bids with the resource cost described in Chapter 5 of the IRP." *Id.* at 7. The Company indicated that it will compare the proposed resource costs received in the RFPs to the 30-year nominal levelized level fixed and production costs contained in the IRP. This will ensure that the RFP costs "are reasonable and consistent with the resource costs presented in the IRP." *Id.*

2. Transmission. Addressing the Staff's transmission comments, Idaho Power "acknowledge[d] that it would have been helpful if the estimated costs, and the accompanying discussion, concerning transmission upgrades to the Pacific Northwest interconnections would have been included in the 2004 IRP" as they were in the previous IRP. *Id.* at 8. The Company asserted that transmission capability is an important part of its resource planning and a discussion

[2] In Order No. 29702 issued February 4, 2005, the Commission approved the residential Air Conditioner Cycling Program. When fully implemented in five years with 40,000 participants, the Company estimates a peak load savings of 44.4 MW.

of transmission capability will be included in the 2006 IRP (to the extent allowed by the FERC Standards of Conduct negotiations). *Id.* Idaho Power is upgrading its Borah-West path (located west of American Falls) as part of its near-term plan with an estimated cost of about $15/kW per year.

The Company insisted that portion of the 2002 IRP discussing transmission is still applicable today. In particular, Idaho Power specifically noted that its existing transmission system between the Pacific Northwest and its system has "been largely optimized. No upgrades can be identified which will result in significant improvements in capacity for relatively small investments." *Id.* The Company stated that any significant increase in transmission capacity will require construction of new transmission lines that "could be between 170 to 400 miles in length." *Id.* at 8. When adding the costs of substations, Idaho Power estimates that the construction costs for new transmission lines range from approximately $400,000 to $700,000 per mile which represents an incremental transmission cost between $45-90/kW per year. *Id.* These transmission upgrade costs are approximately five times larger than Idaho Power's embedded transmission costs. *Id.* Constructing new lines could add 10 to 20 mils/kWh to the Company's power purchase costs.

3. Coal Generation. Idaho Power also analyzed the interplay between transmission capability and coal-fired generation. The Company concluded that the costs are nearly equal when a coal plant is located at the mine mouth and additional transmission is built, as compared to locating the plant near the load and transporting coal to the plant.

DISCUSSION

The Commission has reviewed Idaho Power's 2004 Integrated Resource Plan (IRP) and the comments in response to our Notice. We find that the Company's IRP contains the necessary information and is in the appropriate format as directed by Order No. 22299. We further find that the comprehensive comments have been helpful and, therefore, find that public hearings are not necessary.

Based upon our review and the comments of others, we find that the 2004 IRP is a significant improvement over prior IRPs. In particular, we commend the Company for opening the public process by creation of the Integrated Resource Plan Advisory Council. Involving the Council and the public throughout the development of the IRP results in a significantly improved

planning document. The Clean Energy Advocates, the Staff, and other public commenters all recognized that the expanded public participation improved the final product.

We are pleased to see that Idaho Power's 2004 IRP calls for 124 MW of demand response and energy efficiency programs. Given the continuation of drought conditions in Idaho, we believe that speedy implementation of the DSM and energy efficiency programs are critical to serving Idaho customers. Though we are pleased with the efforts so far, we find that Idaho Power could and should do more to implement conservation. We encourage the Company to actively promote and expand participation in its AC Cycling, Irrigation Peak Clipping, and other cost-effective conservation programs.

We are also pleased to see that the Company's preferred portfolio includes larger acquisitions of renewable resources, namely wind and geothermal resources. However, the Company's continued reliance on new gas-fired generation to meet summer peak causes us particular concern for two reasons. First, natural gas prices continue to be volatile. Second, the continued effects of the drought on irrigation pumping and other state actions that reduce the amount of irrigation pumping creates uncertainty regarding the need for additional peaking resources. We are also concerned about a possible over-reliance on natural gas peakers as a fall back position due to a lack of transmission capacity.

Turning to the issue of transmission, the Company should expand its 2006 IRP to include an analysis of possible transmission projects, associated costs and potential risks. We note that the Company concluded that coal generation costs are equal when comparing transmission costs to coal transport costs. Yet transmission may have advantages by offering fixed costs, improving the range of supply-side options, and producing revenue. The use of zones in assessing the transmission component of various supply side resources could enhance project assessment in the context of an RFP. Transmission upgrades may provide synergies with other supply-side options.

Finally, we agree with Staff and the Advocates that Idaho Power must consider new coal generating technologies now that it has included coal-fired generation in its IRP. The Company's plan to add coal generation should include an analysis of adding additions to its existing coal plants and an examination of joint venture opportunities.

ACCEPTANCE OF FILING

Based on our review, we accept for filing the Company's filed 2004 Integrated Resource Plan. Our acceptance of the 2004 IRP should not be interpreted as an endorsement of any particular element of the plan, nor does it constitute approval of any resource acquisition or proposed action contained in the plan.

ORDER

IT IS HEREBY ORDERED that Idaho Power Company's 2004 Integrated Resource Plan is accepted for filing. Acceptance of the 2004 IRP shall not be interpreted as an endorsement of any particular element of the plan, nor does it constitute approval of any resource acquisition contained in the plan.

IT IS FURTHER ORDERED that the 2006 IRP include transmission as a component of its resource planning. The 2006 IRP shall also address new coal technologies and an expanded examination of coal plant options.

IT IS FURTHER ORDERED that Capital Enterprises' request for public hearing is denied.

THIS IS A FINAL ORDER. Any person interested in this Order (or in issues finally decided by this Order) or in interlocutory Orders previously issued in this Case No. IPC-E-04-18 may petition for reconsideration within twenty-one (21) days of the service date of this Order with regard to any matter decided in this Order or in interlocutory Orders previously issued in this Case No. IPC-E-04-18. Within seven (7) days after any person has petitioned for reconsideration, any other person may cross-petition for reconsideration. See *Idaho Code* § 61-626.

DONE by Order of the Idaho Public Utilities Commission at Boise, Idaho this 22nd day of April 2005.

PAUL KJELLANDER, PRESIDENT

MARSHA H. SMITH, COMMISSIONER

DENNIS S. HANSEN, COMMISSIONER

ATTEST:

Jean D. Jewell
Commission Secretary

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